REMARKS

Favorable consideration of this Application as presently amended and in light of the

following discussion is respectfully requested.

Claims 8-12 and 19-22 are pending in the present Application. Claims 8 and 12 have

been amended to address statutory format. These changes are directed to cosmetic matters of

form. Since the amendment of Claims 8 and 12 are directed to matters of form only, this

Amendment is submitted in accordance with 37 C.F.R. § 1.116, which permits entering of

Amendments complying with any requirement of form expressly set forth in a previous

Office Action or presenting rejected claims in better form for consideration on appeal. This

Amendment does not raise new issues requiring further search or consideration. It is

therefore respectfully requested that the present Amendment be entered under 37 C.F.R. §

1.116. No new matter is added.

By way of summary, the Official Action presents the following issues: Claims 8-12

and 19-22 stand rejected under 35 U.S.C. § 101 being directed toward a non-statutory subject

matter; Claims 8-12 and 19-22 stand rejected under 35 U.S.C. § 112, second paragraph, as

being indefinite; and Claims 8-12 and 19-22 stand rejected under 35 U.S.C. § 103 as being

unpatentable over Kim (U.S. Patent No. 5,627,935) in view of Oeda et al. (U.S. Patent No.

6,125,427, hereinafter Oeda).

REJECTION UNDER 35 U.S.C. § 101

The Office Action has rejected Claims 8-12 and 19-22 under 35 U.S.C. § 101 being

directed toward a non-statutory subject matter. As for the rejection of Claims 8-12 and 19-22

under 35 U.S.C. § 101, that rejection is respectfully traversed.

Claims 8 and 12 have been amended to recite that a reproducing apparatus accesses

and utilizes ECC blocks of a physical data cluster to correct errors encountered during the

accessing of user data in accordance with the configuration of the medium. Accordingly, it is respectfully requested that this rejection be withdrawn.

MPEP § 2106 discusses statutory subject matter in relation to data structures of a computer readable medium. Particularly, MPEP § 2106 provides,

> **a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory.**

Thus, based on the clear language of this section, Claims 8-12 are statutory as they define a functionality of which is realized based on the interrelationship of the structure to the medium and recited hardware components.

With regard to method claims 19-22, MPEP § 2106 provides that:

> Office personnel have the burden to establish a *prima facie* case that the claimed invention as a whole is directed to solely an abstract idea or to manipulation of abstract ideas or does not produce a useful result. Only when the claim is devoid of any limitations to a practical application in a technological arts should it be rejected under 35 U.S.C. § 101 . . . Further, when such a rejection is made, <u>office personnel must expressly state how the language of the claims has been interpreted to support the rejection.</u> (emphasis added) See MPEP § 2106.

The rejection merely includes statements directed to the recitations of Claims 8-12, namely,

> rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. "A 'data structure' comprising: a first block for...; a second block for..." is non-statutory for at least the reason that it is not tangibly embodied in a manner so as to be executable. Further, a collection of fields, *per se*, is not an actual data structure, instead being non-functional descriptive material. Thus rejections under §101 as being an **abstract idea** and under §112, 2nd para, as **lacking an essential element** may also be appropriate."[1] (emphasis in original)

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[1] Office Action of January 26, 2005, at page 2.

Thus, Applicant respectfully submits that no express statement has been provided as to how

the language of Claims 19-22 have been interpreted to support the 35 U.S.C. § 101 rejection

in violation of the guidelines of MPEP § 2106.

Accordingly, should such a rejection be maintained in a subsequent communication

with respect to any of the aforementioned claims, Applicant respectfully requests the

Examiner provide an express statement on the record in accordance with MPEP § 2106

guidelines explaining how such method claim terminology, such as "ECC block," "physical

data cluster" and "physical sectors" is interpreted. More specifically, how such limitations

are deficient to define a practical application in the technological arts of useful, concrete and

tangible result. See State Street Bank & Trust Co. v. Signature Financial Group, Inc., 149

F.3d 1368, 1374, 47 (Fed. Cir. 1998) (discussing practical application of a mathematical

algorithm, formula, or calculation.).

Accordingly, Applicant respectfully requests that the rejection of Claims 8-12 and 19-

22 under 35 U.S.C. § 101 be withdrawn.

Further, should the Examiner disagree with the above passage, MPEP § 2106 also
states that,

> Whenever practicable, Office personnel should indicate
> how rejections may be overcome and how problems may
> be resolved. A failure to follow this approach can lead to
> unnecessary delays in the prosecution of the application.

Applicant respectfully submits, as noted above, that the rejection under 35 U.S.C. §

101 should be withdrawn. However, if the rejection under U.S.C. § 101 is to be maintained,

Applicant respectfully requests that the Examiner provide an explanation of the rejection in

view of the guidelines of MPEP § 2106.

REJECTION UNDER 35 U.S.C. § 112

Claims 8-12 and 19-22 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant respectfully traverses the rejection.

The Official Action states that it is "unclear what the ECC data structure is and how it is different from an ECC block." Applicant respectfully directs the Examiner's attention to Figs. 6-8, as well as the corresponding description at pages 13-23 of the Applicant's specification, which clearly shows that the ECC blocks are a component of the ECC data structure.

Finally, the terminology "error correction coding" has been added to the claims to spell out the abbreviation ECC.

With respect to subheading (b) of paragraph 5 of the Official Action, Applicant is unclear as to the meaning of this portion of the rejection. As stated above, the ECC data structure includes ECC blocks.

Accordingly, Applicant respectfully requests that the rejection of Claims 8-12 and 19-22 under 35 U.S.C. § 112, second paragraph, be withdrawn.

REJECTION UNDER 35 U.S.C. § 103

The Official Action has rejected Claims 8-12 and 19-22 under 35 U.S.C. § 103 as being unpatentable over Kim (U.S. Patent No. 5,627,935) in view of Oeda et al. (U.S. Patent No. 6,125,427, hereinafter Oeda). The Official Action cites Kim as teaching all of the Applicant's claim limitations with the exception of independently coded ECC blocks. The Official Action cites Oeda as disclosing this more detailed aspect of the Applicant's claims and states it would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the teachings of the cited references to arrive at the

Applicant's claims. Applicants respectfully traverses the rejection.

Amended Claim 8 recites, *inter alia,* an optical disc including:

> . . . a first ECC data structure including at least a user data and
> control information disposed in a first ECC block;
> a second ECC data structure including at least an ID information of
> a physical sector disposed in a second ECC block, the first and second
> ECC blocks are error correction coded independently; . . .

Kim describes a digital video cassette coding format in which trick-play data is

excluded from outer error-correction coding, but includes inner error correction coding in a

two-dimensional Reed-Solomon error correction coding format.[2] Referring to Fig. 2, an ECC

block is shown having multiple data sync blocks of a video portion of a signal. The ECC

block includes inner-parity and outer-parity, as well as a trick-play data region.

Oeda describes a magnetic disc control apparatus. The control apparatus provides a

data format, in which 2-bit parallel recording is performed, as shown in Fig. 4.[3] As shown in

Fig. 4, a CRC (46), or error detecting code, is included in the data structure along with an

error correcting code ECC.[4]

Conversely, in an exemplary embodiment of the Applicant's invention, ECC blocks

are independently error correction coded, and ID information used for synchronizing and

addressing physical sectors of one ECC block is coded in a separate ECC block. Thus, the ID

information may be positioned at the head of each physical sector in a same physical data

cluster. In other words, since the ECC blocks are independent of each other, the logical

sector can be composed without concern of the ID information being displaced by the use of

a LDC. As Kim describes a single ECC block in Fig. 2, Kim does not disclose or suggest

Applicant's ECC data structure or independently coded ECC blocks. Nor does Kim disclose

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[2] Kim at Abstract.
[3] Oeda at column 7, lines 59-64.
[4] Oeda at column 7, line 65 through column 8, line 9.

or suggest an ECC block containing an ID information and expressed on a disc in a same physical data cluster as a second ECC block. As can be appreciated, Oeda does not satisfy the deficiency of Kim. Furthermore, Oeda does not disclose independently coded ECC blocks, but, instead, the use of an ECC and a CRC, which are not the same structure, and which perform separate functions (i.e., an error detecting code (CRC) and an error correcting code (ECC)). Accordingly, neither Kim, alone, or in combination with Oeda, disclose or suggest Applicants' amended Claim 8 or any claim depending therefrom.

Further, with respect to dependent Claim 9, the Official Action cites Oeda, column 5, lines 50-57; column 6, lines 14-25, as disclosing an error correcting code having a long distance code in one direction and user data arranged in a same direction as the error correcting code.

Applicant notes that the portion of the specification relied upon in the Official Action is completely devoid of any such description. Accordingly, in addition to the reasons above, Applicant respectfully submits that Claim 9 is also patently distinguished over the cited references.

As Claims 10-12 and 19-22 recite substantially similar limitations as discussed above in independent, and/or dependent form, Applicant respectfully submits that these claims are likewise allowable, at least for the reasons discussed above.

Accordingly, Applicant respectfully requests that the rejection of Claims 8-12 and 19-22 under 35 U.S.C. § 103 be withdrawn.

OTHER PRIOR ART

At paragraph 16, the Official Action cites Itoi (U.S. Patent No. 6,477,313) and Kulakowski et al. (U.S. Patent No. 5,233,584, hereinafter Kulakowski) references as teaching the use of different ECC data blocks, each being coded independently. Applicant notes that

<u>Kulakowski</u> discloses setting thresholds for error correction functionality,[5] but does not

disclose or suggest Applicant's claimed ECC data structure. Likewise, <u>Itoi</u> discloses the

addition of ECC blocks, which are directed to control information only.[6] Thus, Applicant

submits that neither of these references are pertinent to the patentability of the Applicant's

claims.

<div align="center">CONCLUSION</div>

Should the above distinctions be found unpersuasive, Applicants respectfully

request that the Examiner provide an explanation via Advisory Action pursuant to

MPEP 714.13 <u>specifically rebutting the points raised herein</u> for purposes of facilitating

the appeal process.

Consequently, in view of the foregoing amendment and remarks, it is respectfully

submitted that the present Application, including Claims 8-12 and 19-22, is patently

distinguished over the prior art, statutory, definite, and in condition for allowance, and such

action is respectfully requested at an early date.

Respectfully submitted,

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[5] <u>Kulakowski</u> at column 4, lines 9-16.
[6] <u>Itoi</u> at column 4, line 6 through column 6, line 14.